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RECENSION OF THE MEXICAN *AMAURIOPSIS* (ASTERACEAE: BAHIEAE)

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ABSTRACT

The recently resurrected genus *Amauriopsis* (*Bahia* series *Alternifoliae* of Ellison) is treated as having six species, five of these native to Mexico. One of these, *A. biternata*, so far as known, is confined to the USA. A new taxon, **Amauriopsis janakosana** B.L. Turner, sp. nov., is described from northeastern Chihuahua. New combinations are these: **A. autumnalis** (Ellison) B.L. Turner, comb. nov., **A. biternata** (A. Gray) B.L. Turner, comb. nov., **A. glandulosa** (Greenm.) B.L. Turner, comb. nov., and **A. pedata** (A. Gray) B.L. Turner, comb. nov. A key to the species is provided, along with maps showing the Mexican distributions, all of this in the format of my upcoming treatment of the tribe Bahieae for the Comps of Mexico (cf. Turner 1997, Phytologia Memoirs 11).

AMAURIOPSIS Rydb., N. Amer. Fl. 34: 37. 1914.

Annual or biennial herbs with alternate leaves. Heads mostly radiate in terminal paniculate cymes. Involucres hemispheric to campanulate, the bracts subequal in two series. Receptacles flat to convex, epaleate. Ray florets pistillate, fertile, yellow or yellow-orange. Disk florets numerous, bisexual, mostly yellowish, the corollas regular to somewhat zygomorphic. Anther appendages ovate, lacking glandular trichomes. Style branches deltoid apically, the stigmatic lines narrow. Achenes obpyramidal, variously pubescent; pappus of ca 8–16 scales, the midrib usually included, rarely absent. Base chromosome number, x = 12.

Type species, *Amauriopsis dissecta* (A. Gray) Rydb.

REFERENCES

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A mostly western North American genus with 6 species, 5 of these native to Mexico, the sixth confined to the USA. Ellison (1964) included all of these within his concept of *Bahia* series *Alternifoliae*. DNA data, however, strongly indicate that these are better treated as a separate genus (Panero 2007), and such is followed here. So treated, *Bahia* sensu stricto comprises species with strictly opposite leaves (series *Oppositifoliae*). As will be noted in the synonymy below, at least two species (*A. biternata* and *A. dissecta*) have been included in the extra-tribal genus Villanova, but DNA data (Baldwin et al. 2002; Panero 2007) negate such a positioning.

KEY TO THE SPECIES

1. Plants perennial from woody rootstocks; leaves tripartite ..... **Amauriopsis janakosana**
1. Plants annual from slender taproots; leaves multipartite ..... (2)

2. Ray florets white or creamy-white ..... **Amauriopsis glandulosa**
2. Ray florets yellow ..... (3)

3. Peduncles puberulent, but not glandular-pubescent; e Coa, Nue ..... **Amauriopsis autumnalis**
3. Peduncles densely glandular-pubescent ..... (4)

4. Inner achenes with pappus scales having an excurrent awn; leaf segments mostly 1–3 mm wide ..... **Amauriopsis biternata**
4. Inner achenes with pappus absent or if scales present not aristate; leaf segments mostly 3–5 mm wide ..... (5)

5. Pappus absent or rarely present (when present the scales lanceolate); Bajn, Son, Chi, w Coa ..... **Amauriopsis dissecta**
5. Pappus of obovate to oblanceolate or spatulate scales; Chi, Coa, Nue, Dur, and adjacent USA ..... **Amauriopsis pedata**

AMAURIOPSIS AUTUMNALIS (Ellison) B.L. Turner, **comb. nov.** Map 1. Based upon *Bahia autumnalis* Ellison, Rhodora 66: 199. 1964.

Coa and Nue, rocky limestone soils, mostly thorny scrublands, 500–1000 m; Oct–Nov.

Robust annual or biennial, mostly eglandular, herbs to 1.5 m high; stems leafy throughout; leaves mostly alternate, 4–12 cm long, ternately divided into mostly linear-oblanceolate segments; heads radiate, numerous on ultimate peduncles 0.5–4.5 cm long; involucre hemispheric, 2–3 seriate, the bracts subequal; receptacle convex, epaleate; ray florets 13–21, pistillate, fertile, the ligules 13–21, yellow, 4–5 mm long; disk florets numerous, yellow; achenes pubescent below, and along the angles, the faces glabrous; pappus of 11–12 lacerate scales 1.0–1.3 mm long; chromosome number, $n = 12$ pairs.

A very distinctive, fall-flowering, species, not easily confused with another. Noteworthy is a specimen (*Hinton 23993*, Aramberri, Nue) from gypseous soils having much smaller heads with fewer florets; I take this to be a small-headed form of the present. Occasional plants from the vicinity of Rayones, Nue (e.g., *Hinton et al. 28563*) are densely glandular-pubescent throughout, suggesting genetic influence of *Amauriopsis pedata*.

AMAURIOPSIS BITERNATA (A. Gray) B.L. Turner, **comb. nov.** Map 2. Based upon *Bahia biternata* A. Gray, Pl. Wright. 2: 95. 1853.
Eriophyllum biternatum (A. Gray) Kuntze
Schkuhria biternata (A. Gray) A. Gray
Villanova biternata (A. Gray) Woot. & Standl.

Not collected in Mexico as yet, but to be anticipated along the northern borders of Son and Chi, since it is known to occur in the central and southern counties of Arizona and New Mexico in the USA.

This taxon is closely related to *Amauriopsis pedata*, the latter not having aristate pappus scales. The possibility that *A. biternata* is but a awned-pappus populational expression of the latter could be investigated in the field.

AMAURIOPSIS DISSECTA (A. Gray) Rydb., N. Amer. Fl. 34: 37. 1914. Map 3. *Amauria dissecta* A. Gray, Mem. Amer. Acad. Arts, n.s., 4: 104. 1849.
Bahia chrysanthemoides (A. Gray) A. Gray
Bahia dissecta (A. Gray) Britton
Bahia dissecta var. *anisopappa* Blake
Eriophyllum chrysanthemoides (A. Gray) Kuntze
Villanova chrysanthemoides A. Gray
Villanova dissecta (A. Gray) Rydb.

Bajn, e Son, n Chi, n Coa, and southwestern USA (Arizona, California, Colorado, Nevada, New Mexico, Texas, Utah, Wyoming), juniper-pine woodlands, 1600–2200 m; Jul–Oct.

Annual herbs to 1.5 m high; much resembling *A. pedata* but the foliage scarcely glandular-pubescent, if at all, the ultimate divisions finer; technically, *A. dissecta* is distinguished from *A. pedata* by its nearly glabrous, epappose achenes. Blake, however, recognized pappose forms from Bajn as the var. *anisopappa*. In all other characters, however, plants of the latter are similar to *A. dissecta*; chromosome number, $n = 18$ pairs.

AMAURIOPSIS GLANDULOSA (Greenm.) B.L. Turner, **comb. nov.** Map 4. Based upon *Bahia glandulosa* Greenm., Proc. Amer. Acad. Arts 39: 116. 1904.
Hymenopappus glandulopubescens Waterfall

Dur, Zac, Agu, and n Jal, grasslands and pine-oak woodlands, 1900–2300 m; Aug–Nov.

Annual or biennial herbs to 1.5 m high; leaves mostly alternate, pedately dissected, the foliage usually glandular-pubescent throughout; otherwise resembling *Amauriopsis pedata* but readily distinguished by its white rays; chromosome number, $n = 12$ pairs.

Most of the distributional records from Zac are from Balleza and Villasenor (2002).

AMAURIOPSIS JANAKOSANA B.L. Turner, **sp. nov.** Fig. 1, Map 4.
Amauriopsi pedatae (A. Gray) B.L. Turner similis sed differt duratione perenni (vs annui) radicibus ligneis, foliis minute glandulosi-pubescentibus (vs manifeste pilosis), et acheniis villosis (vs hispidulis).

Perennial herbs to 1 m high. Stems several from the apex of a woody crown or root; mid-stems minutely glandular-pubescent to nearly glabrate, with a smattering of minute eglandular hairs. Leaves tripartite, their margins irregularly lobed, if at all, pubescent like the stems; petioles 2.0–3.5 cm long. Capitulescence a terminal paniculate cyme ca 15 cm high, the ultimate peduncles 2–5 cm long. Heads ca 2 cm across the extended rays; involucral bracts 2–3 seriate, weakly gradate, sparsely pubescent like the stems, the inner bracts lanceolate, apiculate, 7–8 mm long. Receptacle convex, naked, ca 3 mm wide. Ray florets ca 8(?), pistillate, fertile; ligules ca 5 mm long, yellow. Disk florets numerous, yellow. Achenes 4-sided, nervate, ca 4 mm long, villous throughout with upwardly appressed hairs; pappus of ca 16, flabellate, nervate scales ca 2 mm long.

TYPE: MEXICO. Chihuahua. Mpio. Ojinaga, 33.5 km by winding road SE of Ejido Paso de San Antonio toward Rancho El Carrizal Grande (Coah.), NE flank of Sa. de Hechiceros, 28° 51' N,

103° 34' W, 950–1150 m, matorral desertico con esp. laterales, steep slopes [of] extrusive igneous rock, gravelly and grussy, very crumbly, 2 Oct 1972, *F. Chiang, T. Wendt*, and *M.C. Johnston 9665* (holotype: LL).

Named for Jana Kos (age 55; born in Czechoslovakia, naturalized in the USA), a delightful colleague of mine at the University of Texas, where we first met. She was teaching Czech at the time but subsequently became interested in botany as a result of our field sorties along the Mexican border regions. Jana is like the above novelty in many ways: she is a poorly known individual whom I discovered by pure chance (much as the Type of *Amauriopsis janakosana*, a unusual specimen hidden among a stack of *A. pedata* collections!). More important, her intelligence, singular ideals, and loyalty are remarkable, and I find her fully deserving of the eponymy rendered.

AMAURIOPSIS PEDATA (A. Gray) B.L. Turner, **comb. nov.** Map 5. Based upon *Bahia pedata* A. Gray, Pl. Wright. 1: 123. 1852.
Eriophyllum pedatum (A. Gray) Kuntze
Schkuhria pedata (A. Gray) A. Gray

Chi, Coa, Nue, Dur, and adjacent USA (New Mexico and western Texas), pine-oak woods, 1000–1800 m; Aug–Dec.

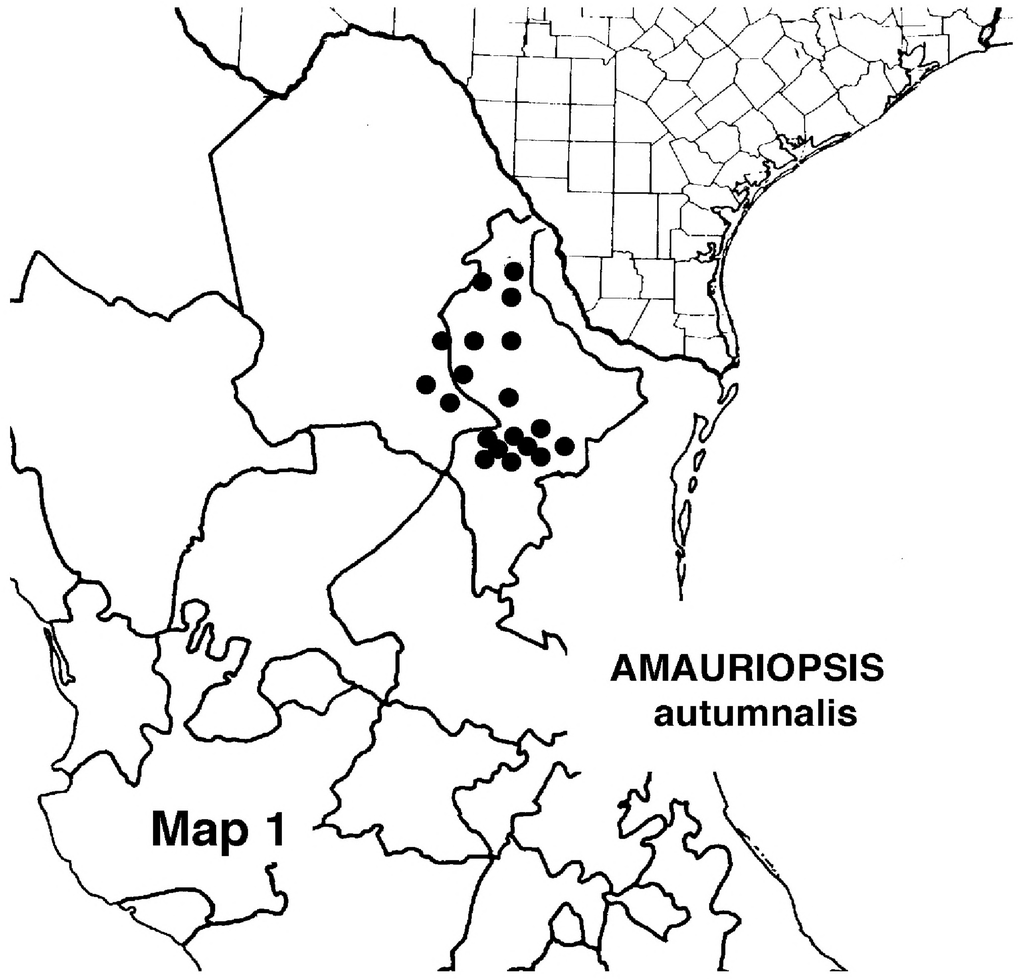
Annual, biennial or short-lived perennial herbs to 1.2 m high; leaves mostly alternate, pedately dissected, the ultimate divisions rather broad and ovate in outline, sparsely to densely pubescent; heads radiate, few to numerous, the ultimate peduncles densely glandular-pubescent; involucres 2-seriate, the bracts 4–6 mm long, subequal; ray florets 11–15, fertile, the ligules yellow, 5–8 mm long; disk florets 70–110, the corollas yellow; achenes 2.5–4.5 mm long, 4–10 ribbed, hispidulous, the pappus of 10–16, nervate, obovate to oblanceolate or spatulate scales; chromosome number, $n = 12$ pairs.

Occasional specimens from the vicinity of Monterrey, Nue, superficially resemble *Amauriopsis pedata*, as noted under *A. autumnalis*.

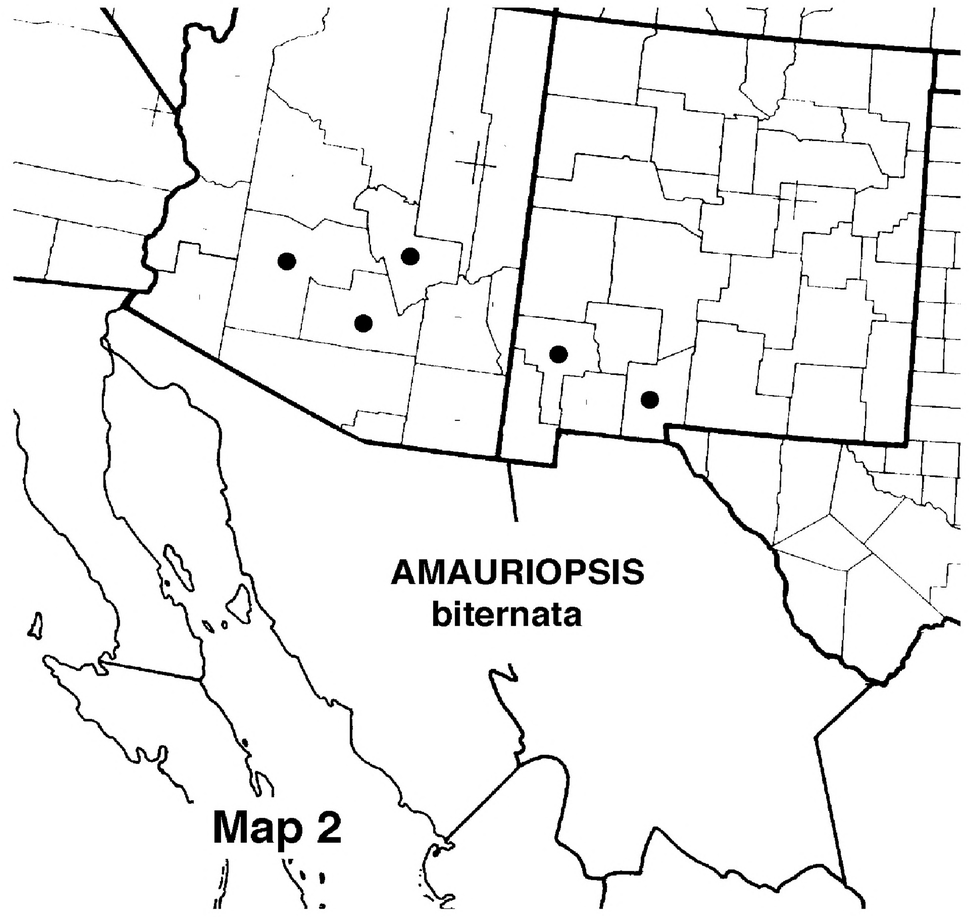
ACKNOWLEDGEMENTS

As always, I am grateful to my colleague Guy Nesom for the Latin diagnosis and for reviewing the paper.

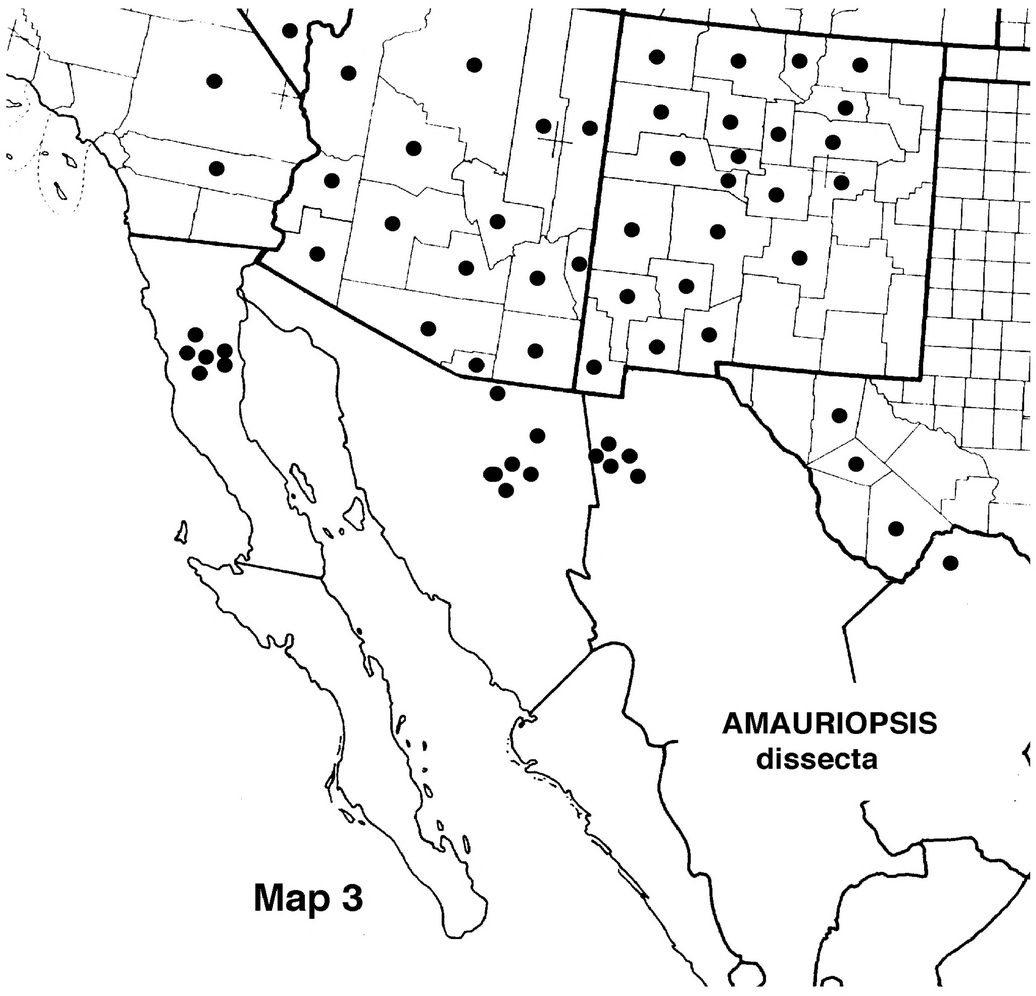
Figure 1. Holotype of *Amauriopsis janakosana* B.L. Turner.



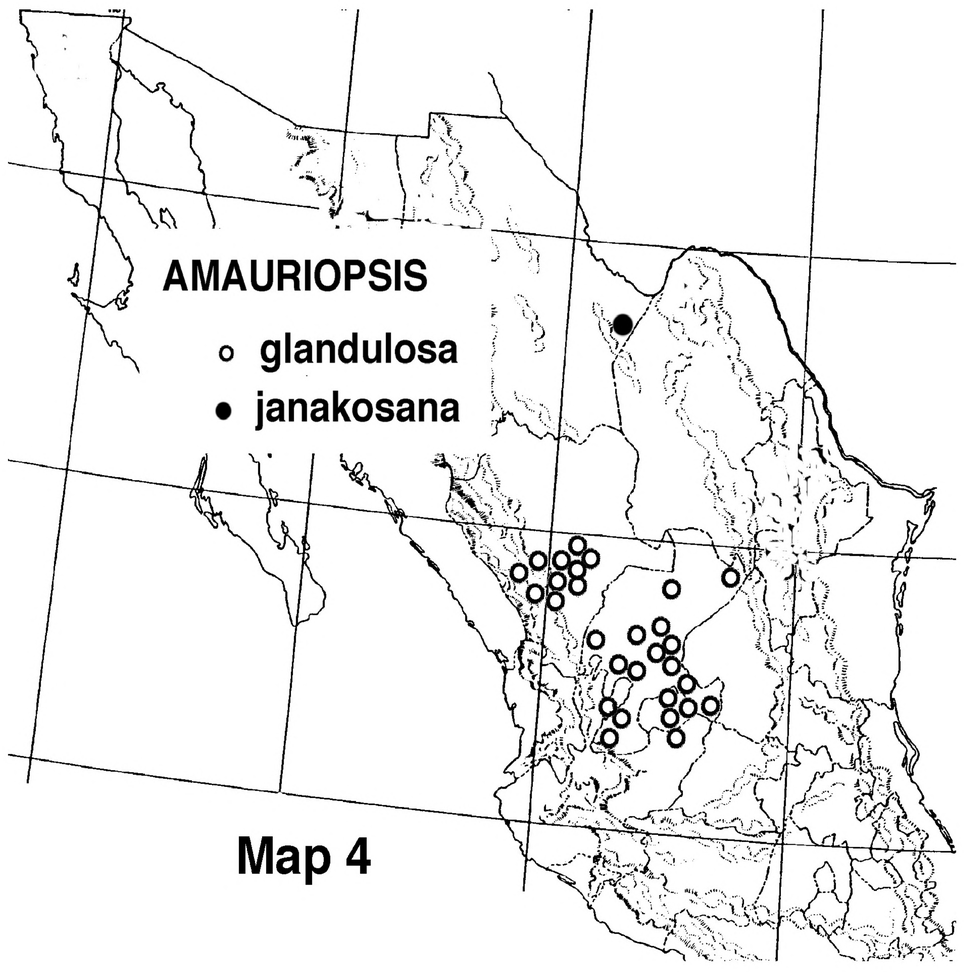
Map 1



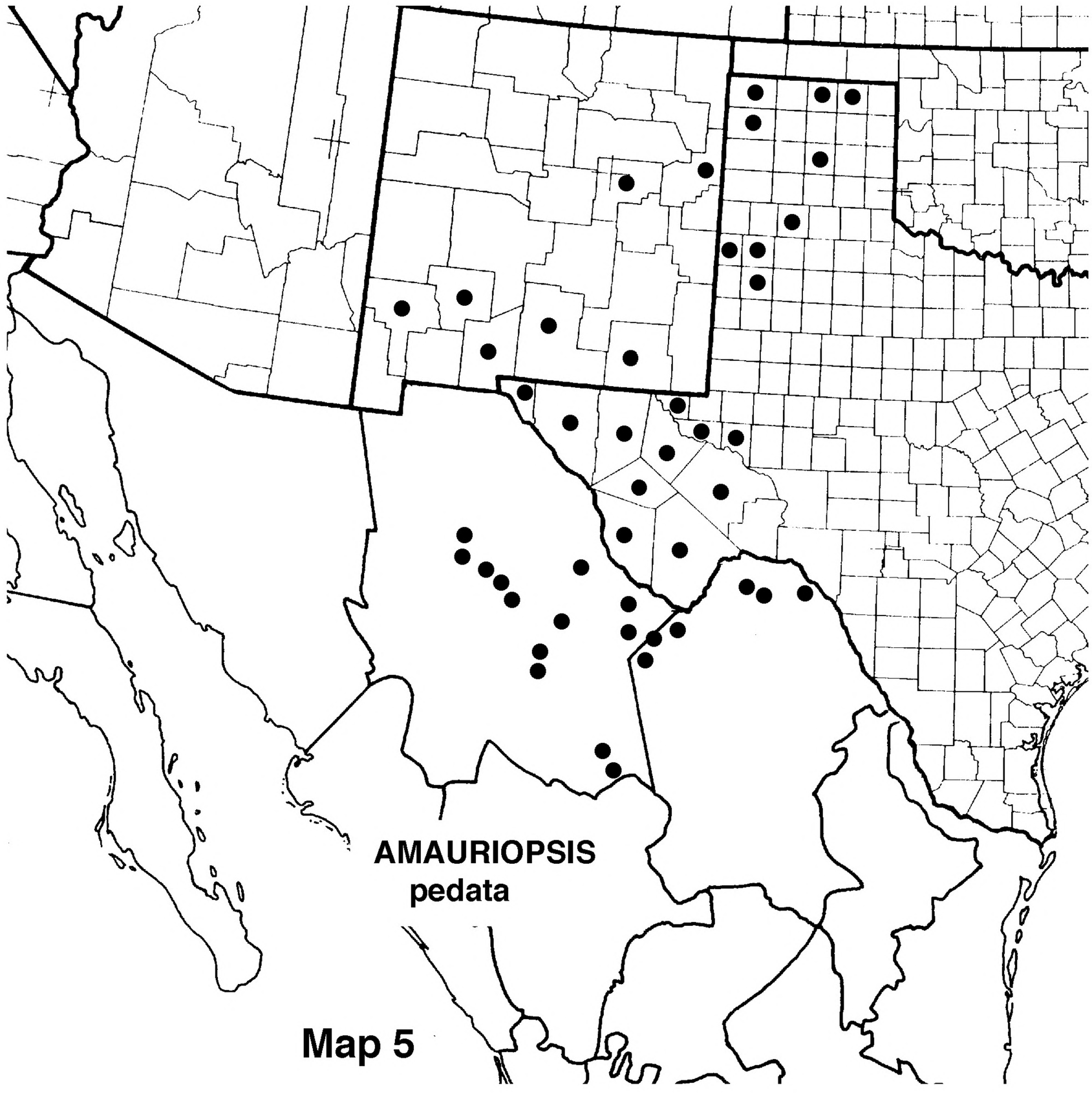
Map 2



Map 3



Map 4



Map 5